7189

Power Pentode

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:		
Voltage (AC or DC)	6.3	volts
Current	0.76	amp
Direct Interelectrode Capacitances (Approx.):[a]		
Grid No.1 to plate	0.5	μμf
Grid No.1 to cathode & grid No.3, grid No.2, and heater	10.8	μμf
Plate to cathode & grid No.3, grid No.2, and heater	6.5	μμf
Grid No.1 to heater	0.25	μμf

Characteristics, Class A_1 Amplifier:

Plate Voltage	250	volts
Grid-No.2 Voltage	250	volts
Grid-No.1 Voltage	-7.3	volts
Mu-Factor, Grid No.2 to Grid No.1	19.5	
Plate Resistance (Approx.)	40000	ohms
Transconductance	11300	μmhos
Plate Current	48	ma
Grid-No.2 Current	5.5	ma

Mechanical:

Operating Position	Any
Maximum Overall Length	3-1/16"
Maximum Seated Length	2-13/16"
Length, Base Seat to Bulb Top (Excluding tip)	2-7/16" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	See *General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9CV

Pin 1 - Internal Connection— Do Not Use
Pin 2 - Grid No.1
Pin 3 - Cathode, Grid No.3
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Same as Pin 1
Pin 7 - Plate
Pin 8 - Same as Pin 1
Pin 9 - Grid No.2

PUSH-PULL AF POWER AMPLIFIER — Class AB_1

Maximum Ratings, *Design-Center Values:*

PLATE VOLTAGE	400 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	300 max.	volts
CATHODE CURRENT	65 max.	ma
PLATE DISSIPATION	12 max.	watts
ZERO-SIGNAL GRID-No.2 INPUT	2 max.	watts

MAX.-SIGNAL GRID-No.2 INPUT	4 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	100 max.	volts
Heater positive with respect to cathode	100 max.	volts

Typical Operation:

Values are for 2 tubes

Plate Voltage	400	volts
Grid-No.2 Voltage	300	volts
Grid-No.1 Voltage	-15	volts
Peak AF Grid-No.1 Voltage	14.8	volts
Zero-Signal Plate Current	15	ma
Max.-Signal Plate Current	105	ma
Zero-Signal Grid-No.2 Current	1.6	ma
Max.-Signal Grid-No.2 Current	25	ma
Effective Load Resistance (Plate to plate)	8000	ohms
Total Harmonic Distortion	4	%
Max.-Signal Power Output	24	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.3 max.	megohm

PUSH-PULL AF POWER AMPLIFIER — Class AB_1

Grid No.2 of each tube connected to tap on plate winding of output transformer

Maximum Ratings, *Design-Center Values:*

→ PLATE AND GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE	375 max.	volts
CATHODE CURRENT	65 max.	ma
PLATE DISSIPATION	12 max.	watts
ZERO-SIGNAL GRID-No.2 INPUT	2 max.	watts
MAX.-SIGNAL GRID-No.2 INPUT	4 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	100 max.	volts
Heater positive with respect to cathode	100 max.	volts

Typical Operation:

Values are for 2 tubes

Plate Supply Voltage	375	volts
Grid-No.2 Supply Voltage	b	
Cathode Resistor	220	ohms
Peak AF Grid-No.1 Voltage	17.7	volts
→ Zero-Signal Cathode Current	70	ma
→ Max.-Signal Cathode Current	81	ma
Effective Load Resistance (Plate to plate)	11000	ohms
Total Harmonic Distortion	3	%
Max.-Signal Power Output	16.5	watts

→ Indicates a change.



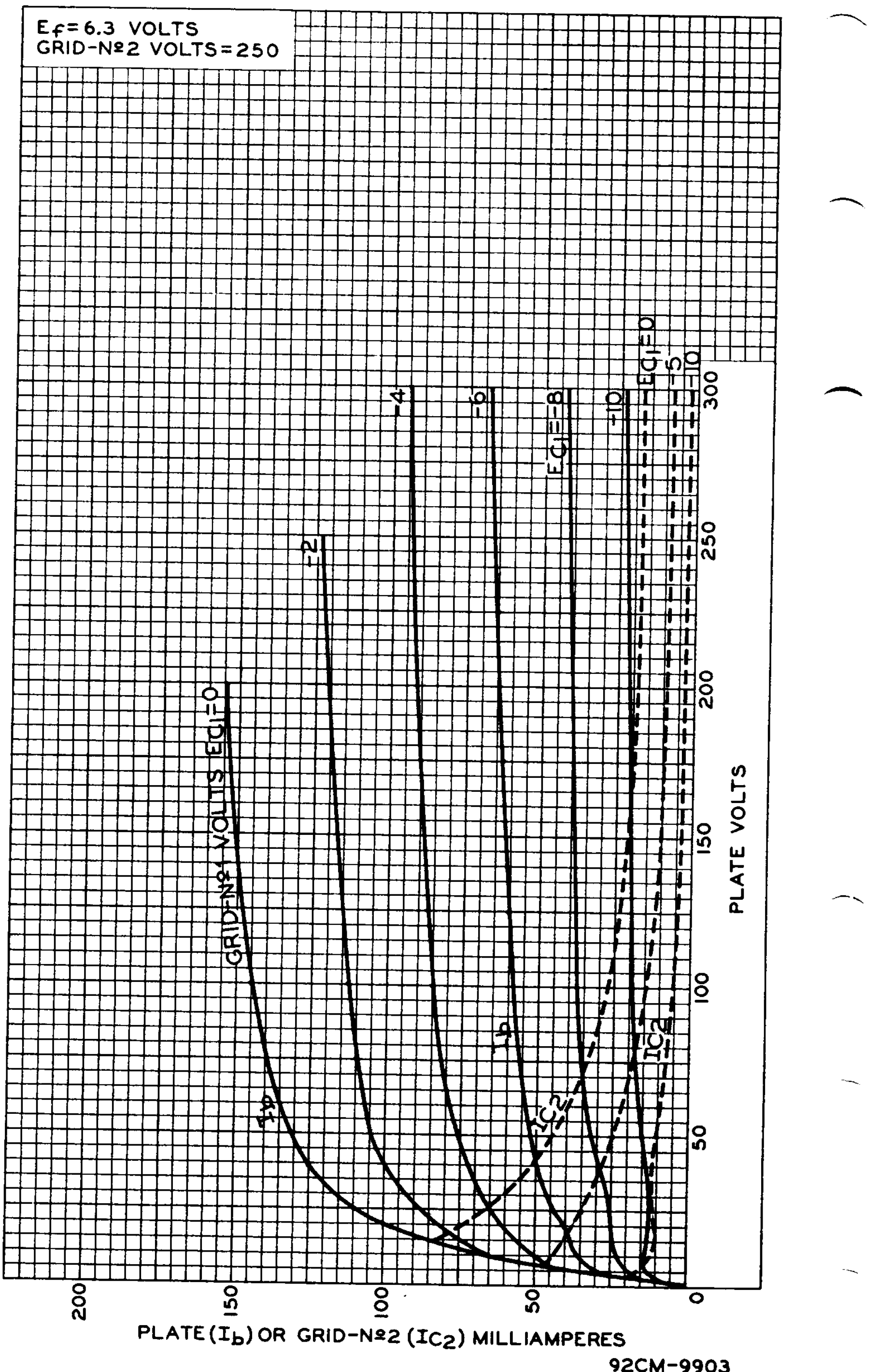
Maximum Circuit Values:

Grid-No.1-Circuit Resistance:
For cathode-bias operation. . . . . 1 max. megohm

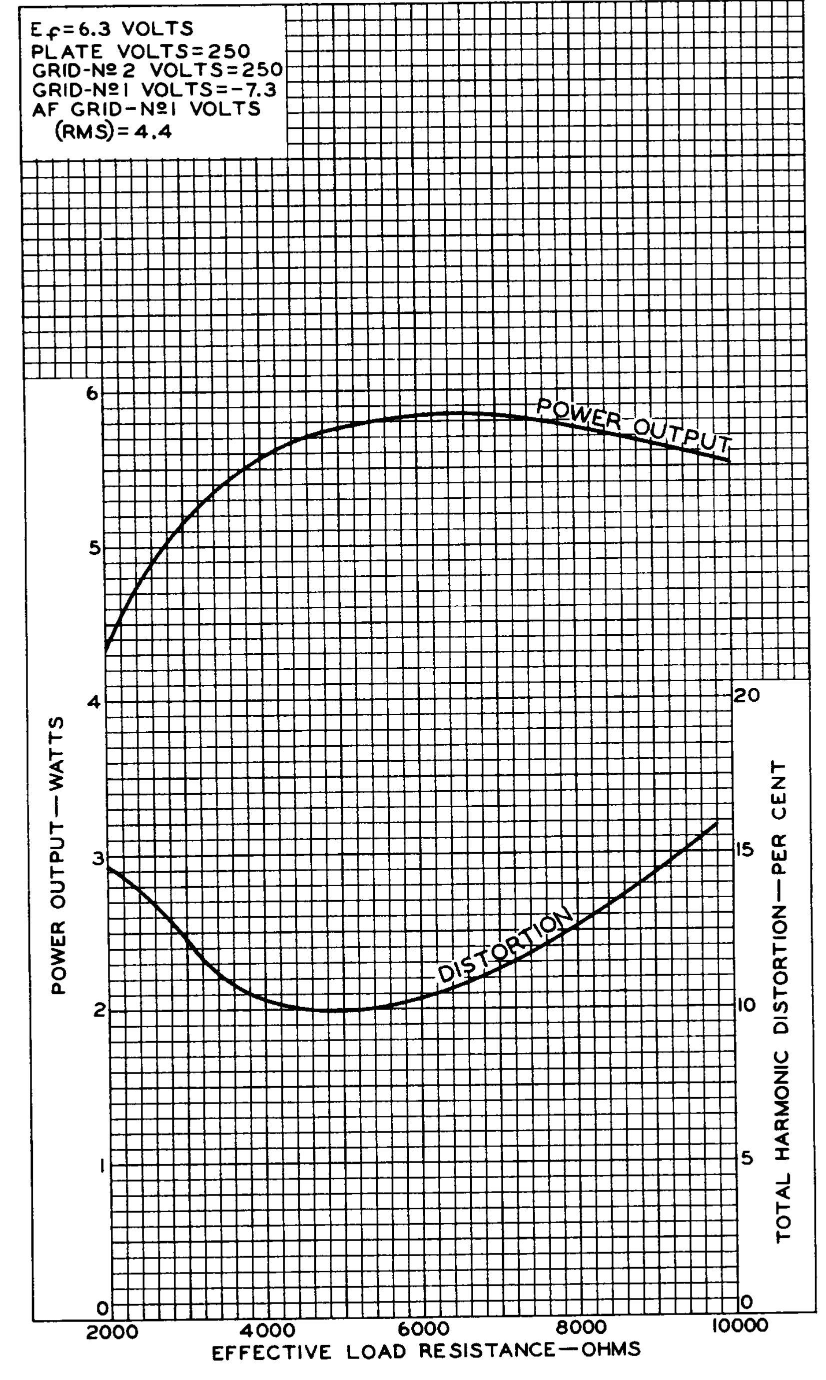
[a] Without external shield.

[b] Obtained from taps on the primary winding of the output transformer. The taps are located on each side of the center-tap (B+) so as to supply 43 per cent of the plate signal voltage to grid No.2 of each output tube.

AVERAGE CHARACTERISTICS



OPERATION CHARACTERISTICS



92CM-9902